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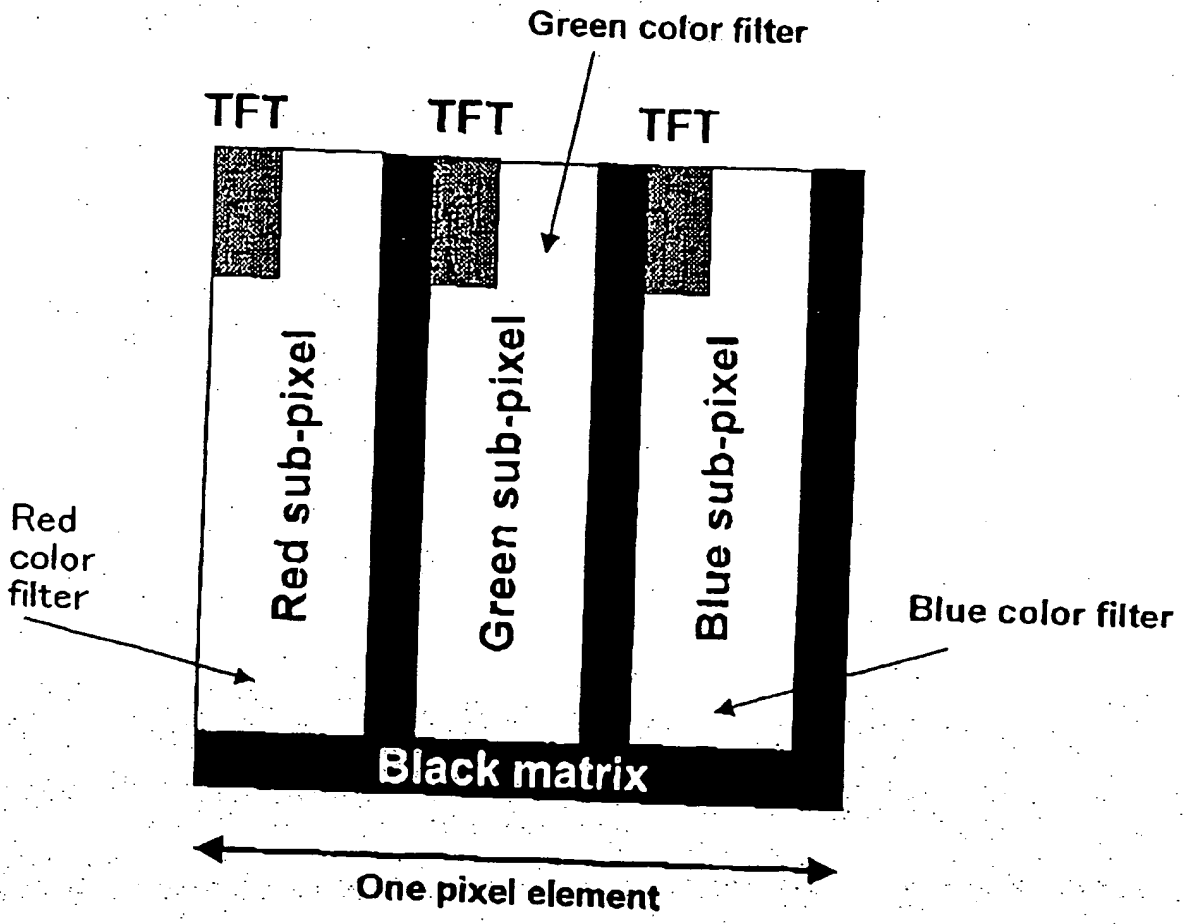

Fig. 1. Pixel structure of Conventional TFT-LCD with micro color filter

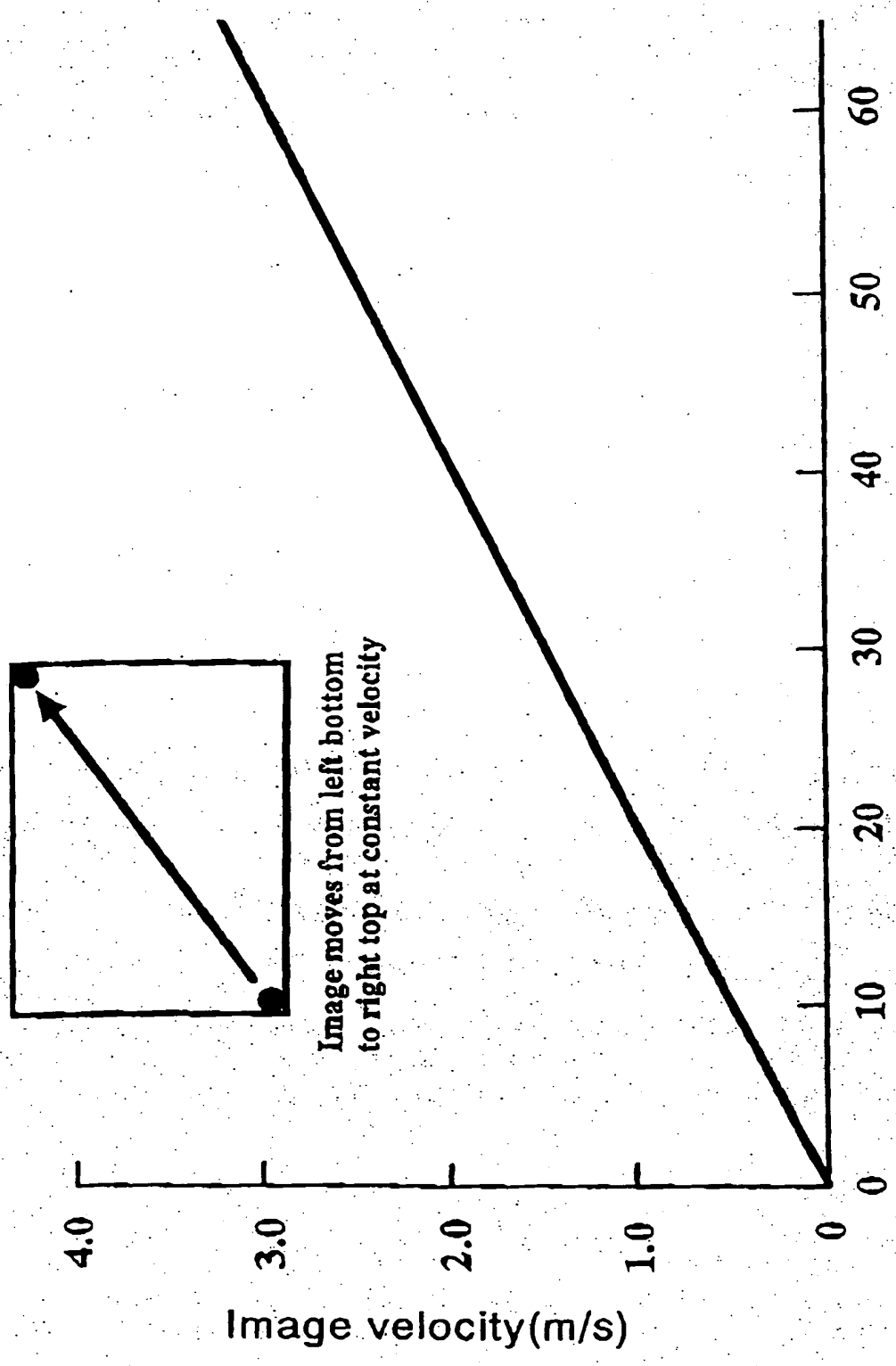

Fig. 2. Image velocity depending on screen diagonal size

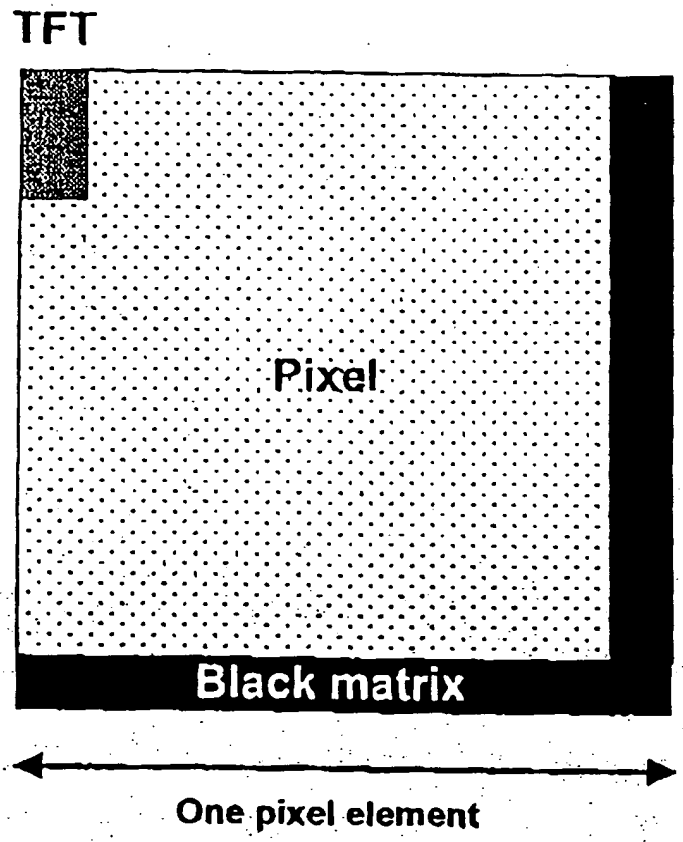

Fig. 3. Pixel structure of Field Sequential Color PS-V-FLCD

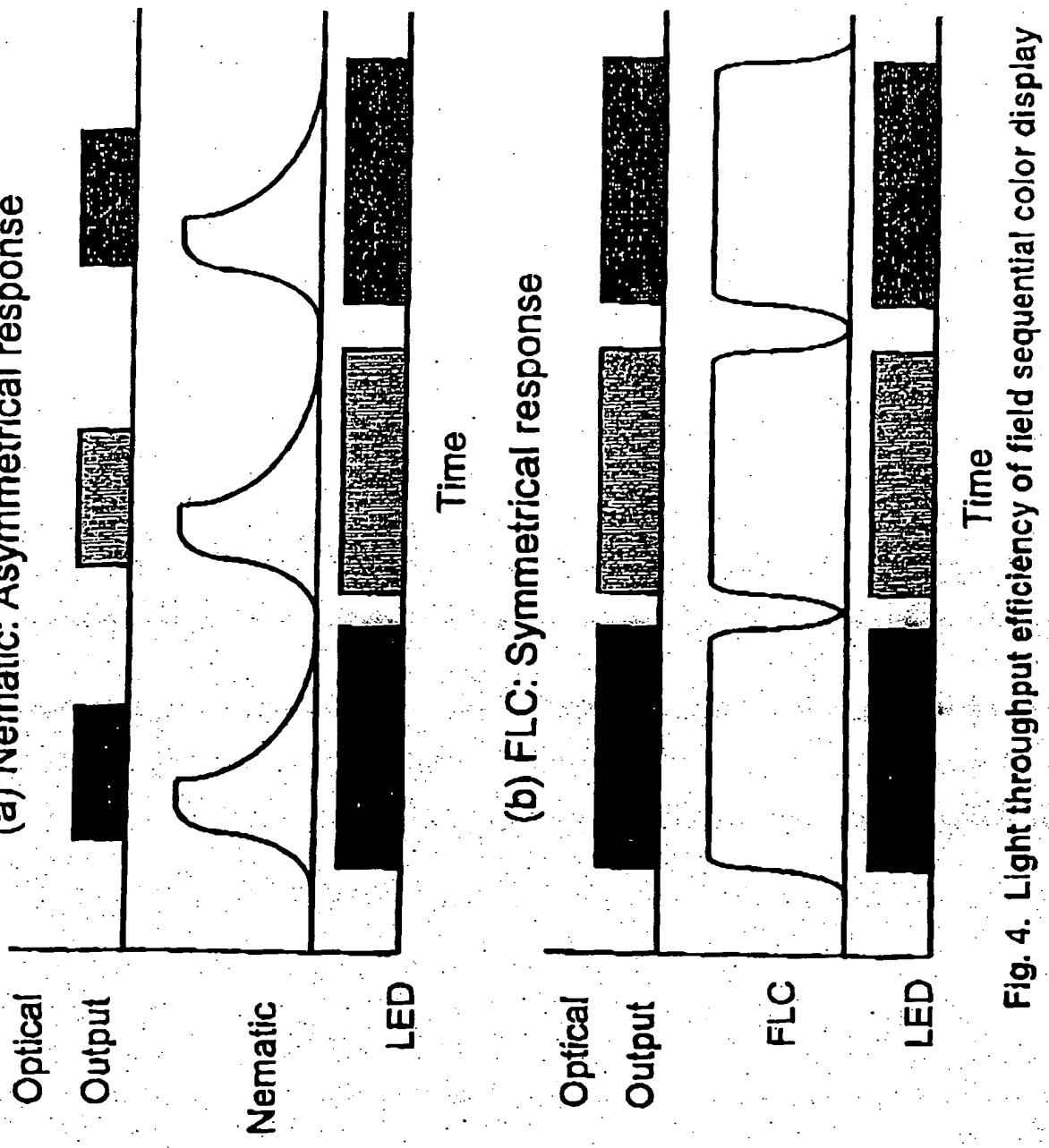

Fig. 4. Light throughput efficiency of field sequential color display

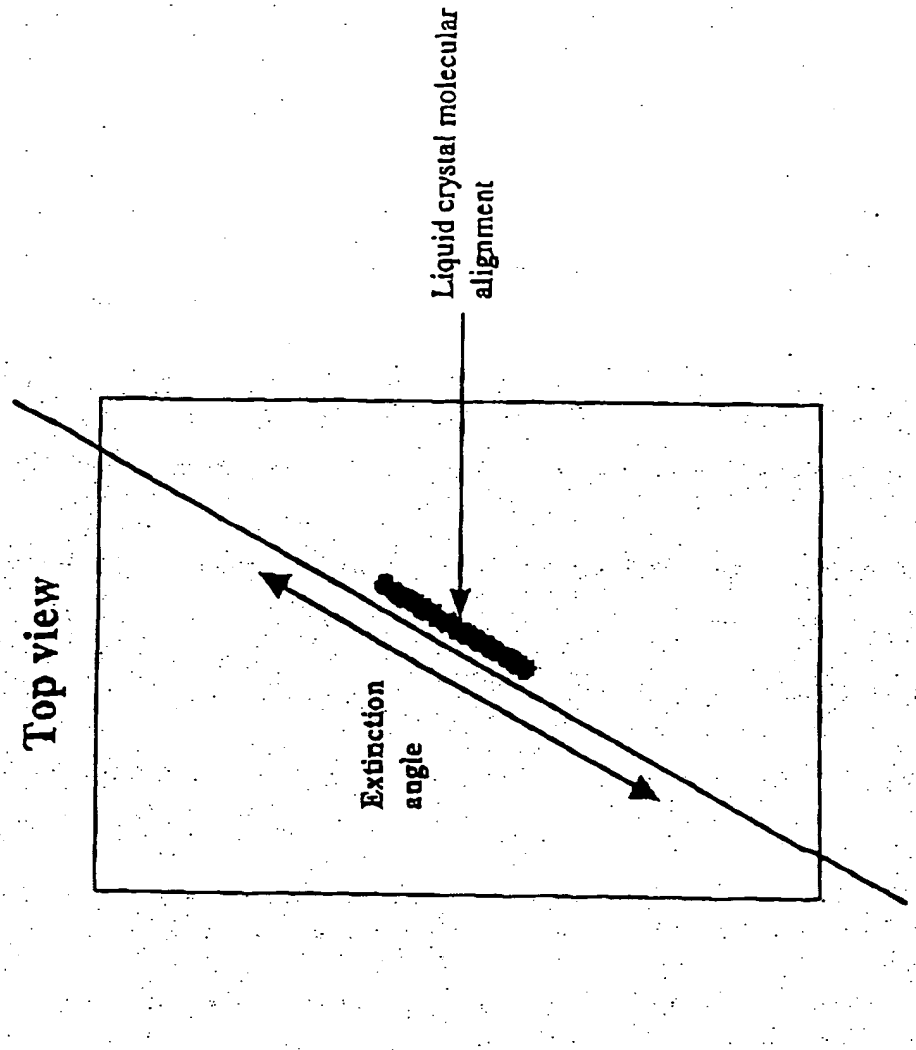

Fig. 5. Extinction angle of PS-V-FLCD panel

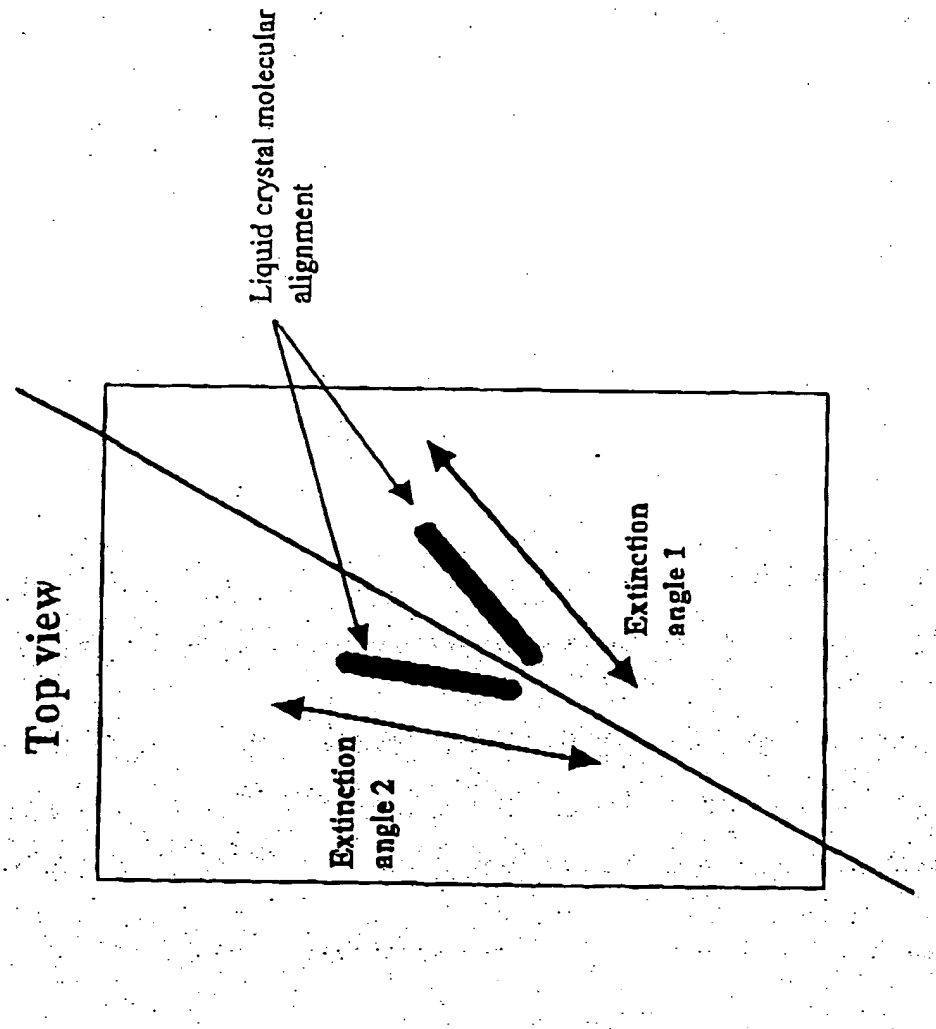

Fig. 6. Extinction angle of SSFLCD panel

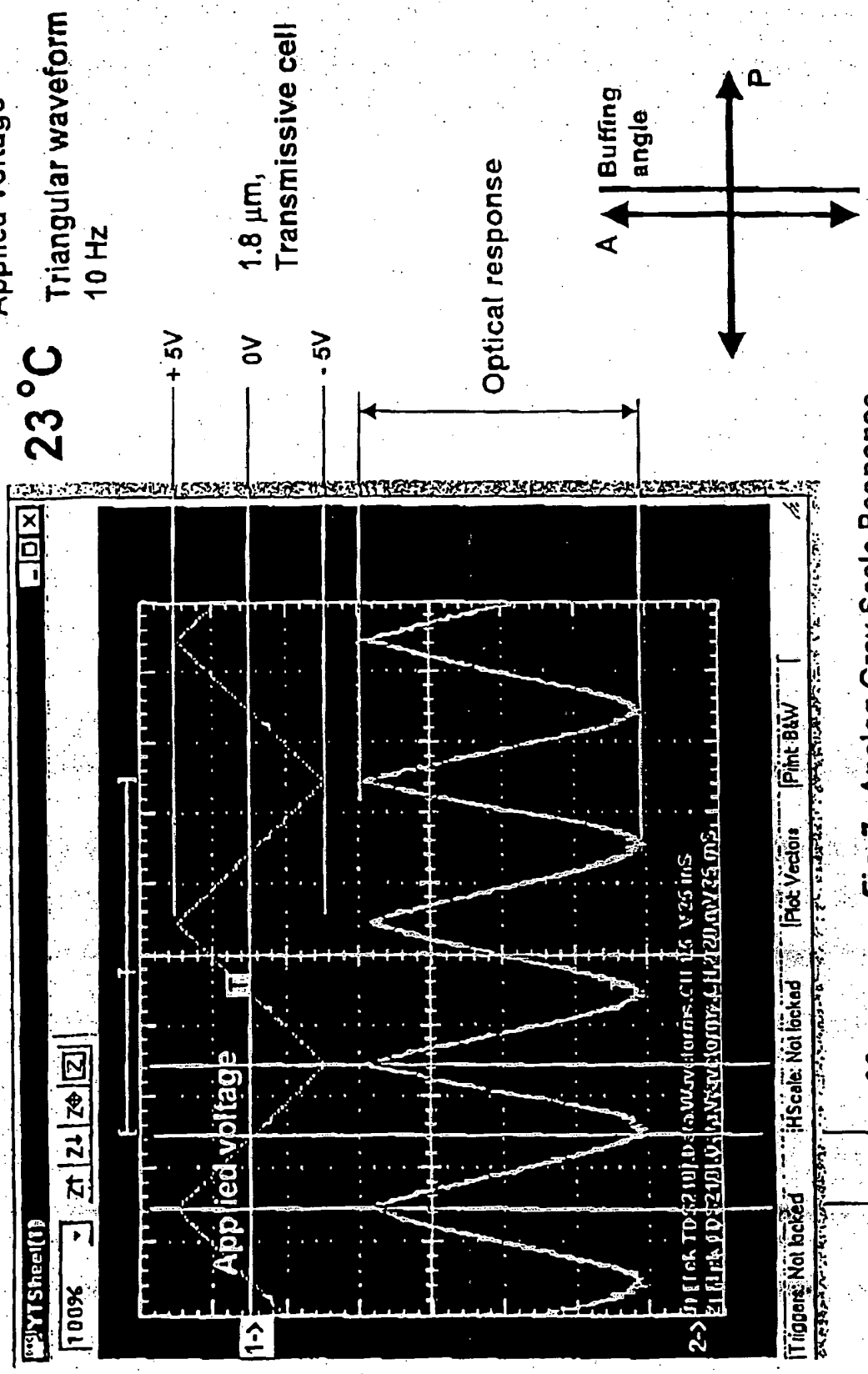

Fig. 7. Analog Gray Scale Response

Fig. 8. Initial molecular alignment of this invention

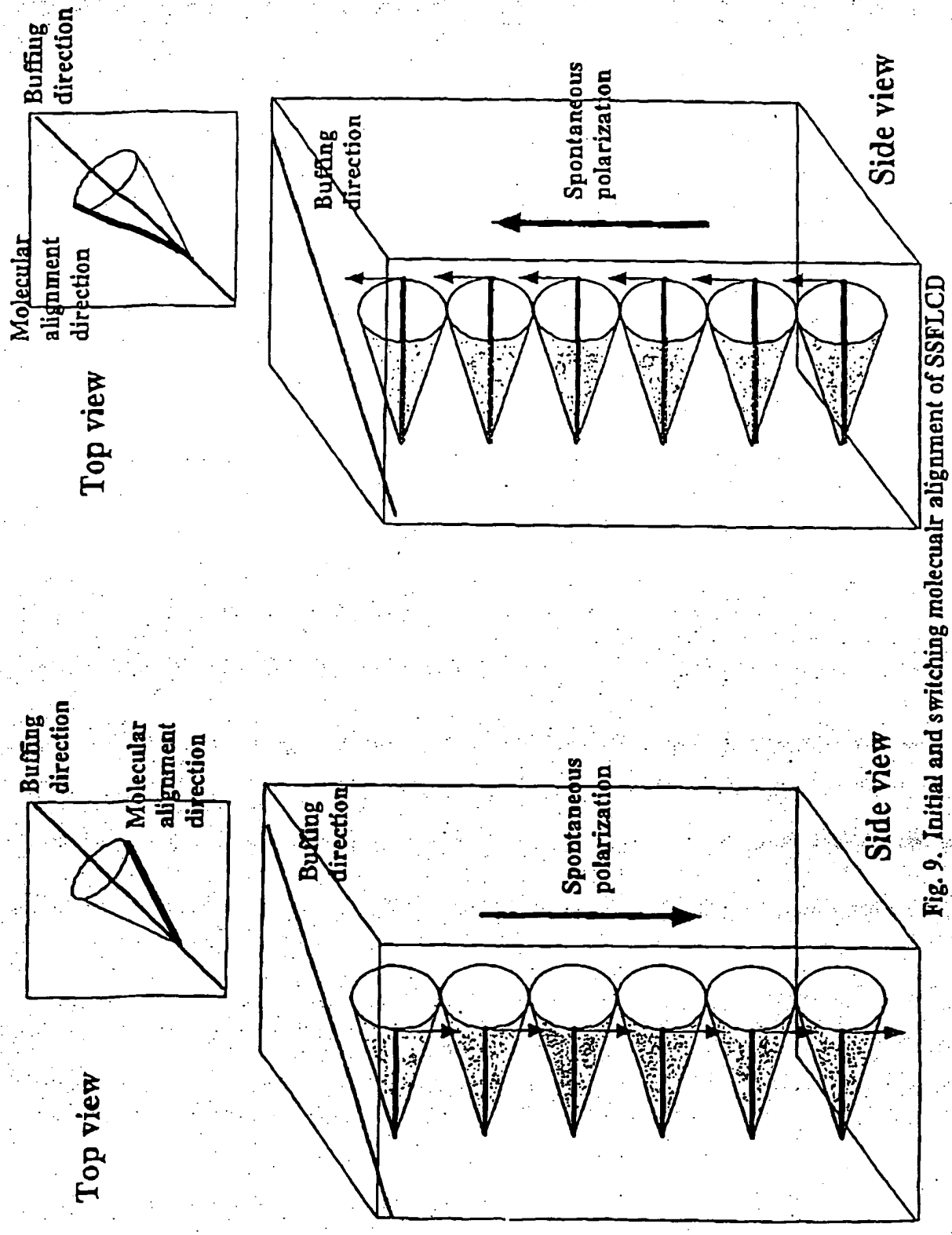

Fig. 9. Initial and switching molecular alignment of SSFLCD

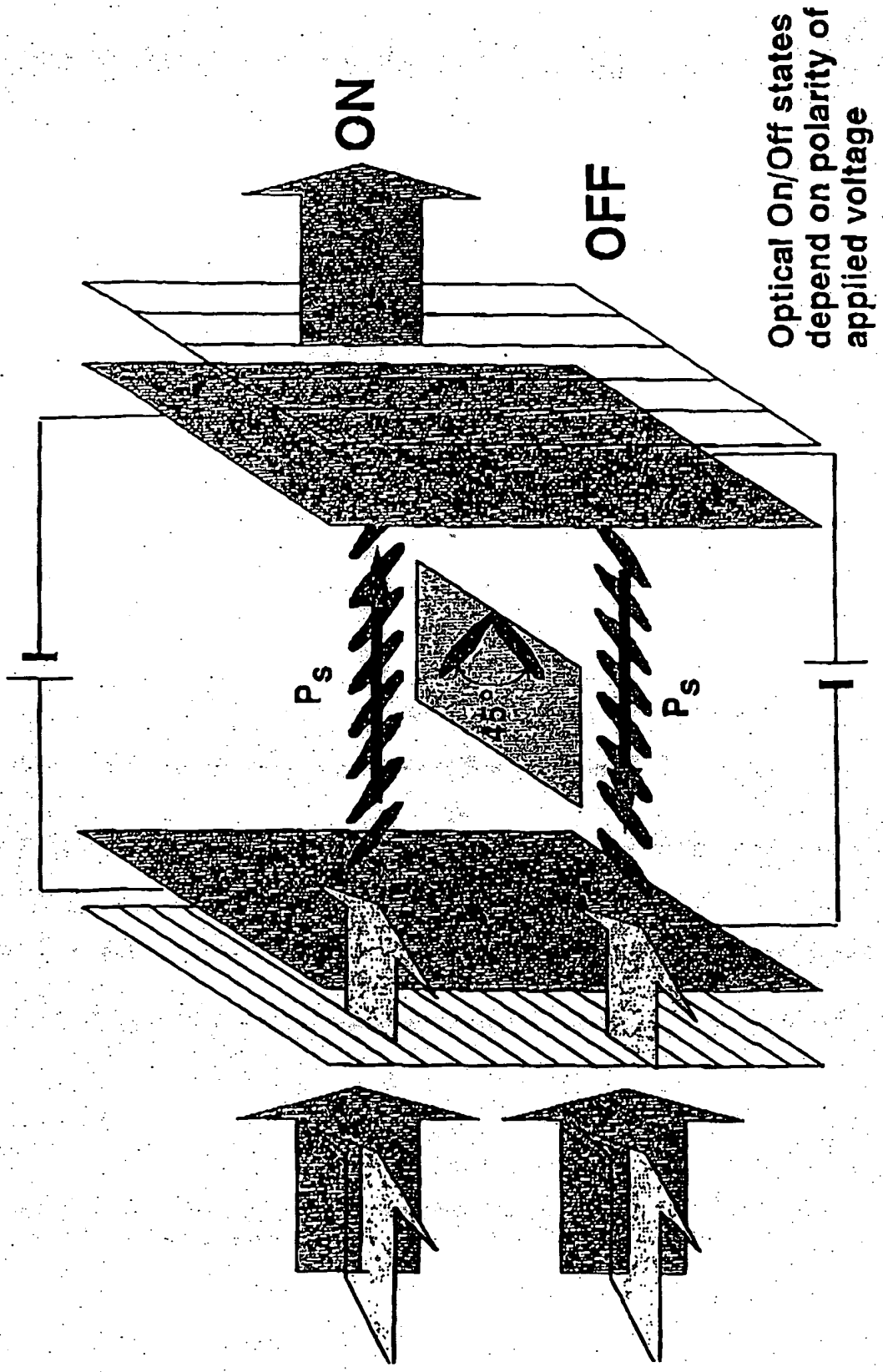

Fig. 10. Electro-Optical Effect of SSFLC displays

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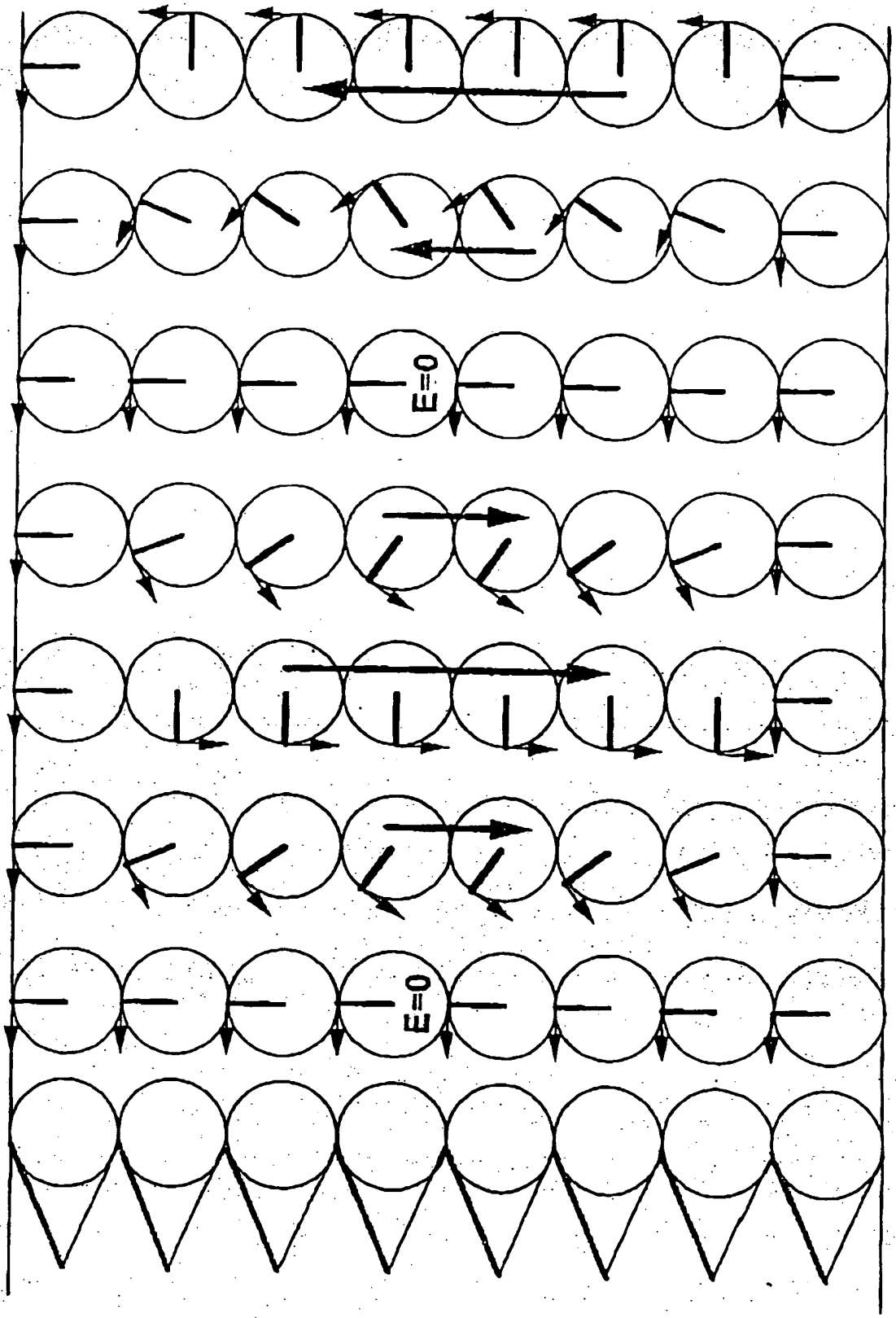

Fig. 11. (a) Model A: Uniform model

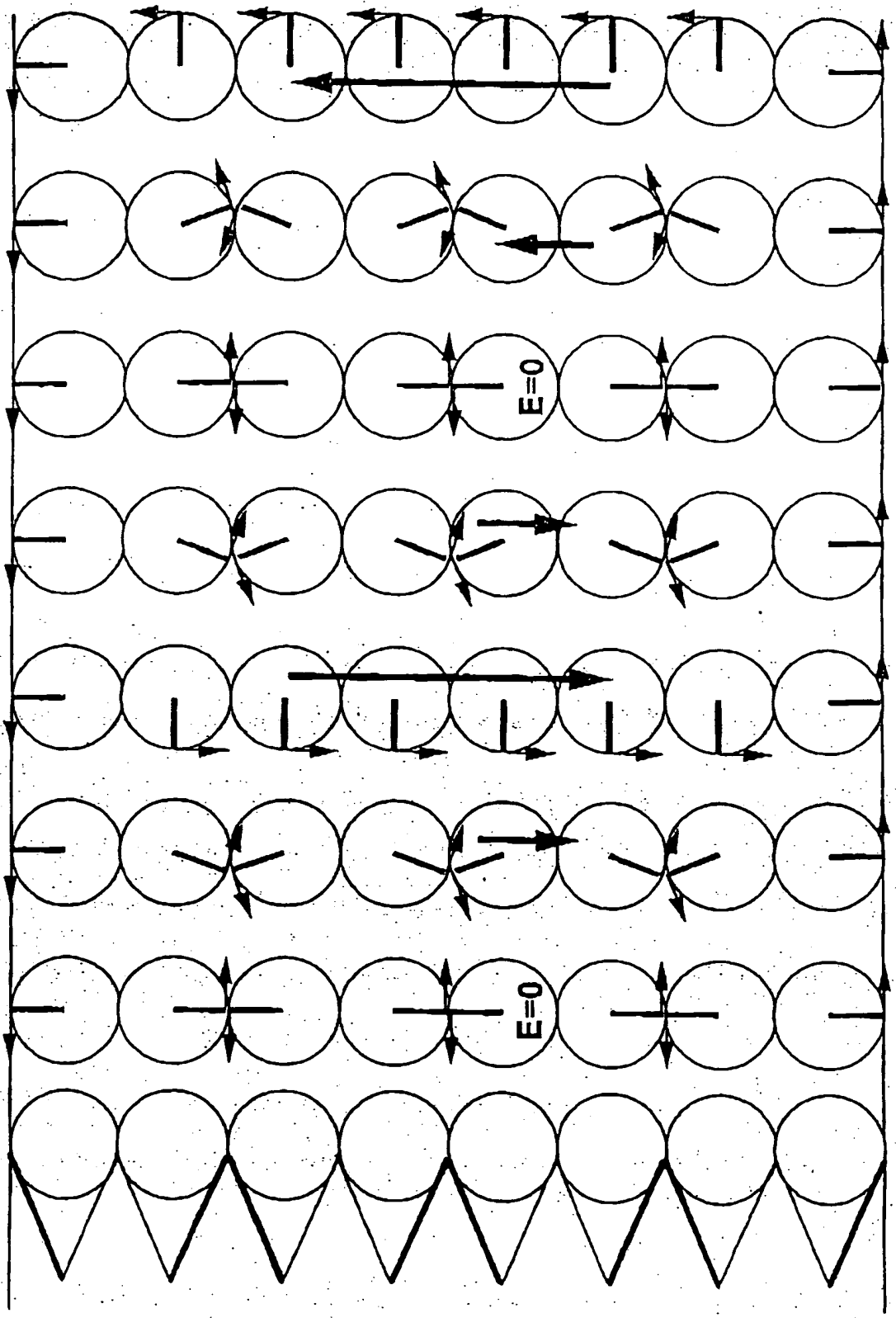

Fig. 11 (b) Model B: Internally Symmetric Model

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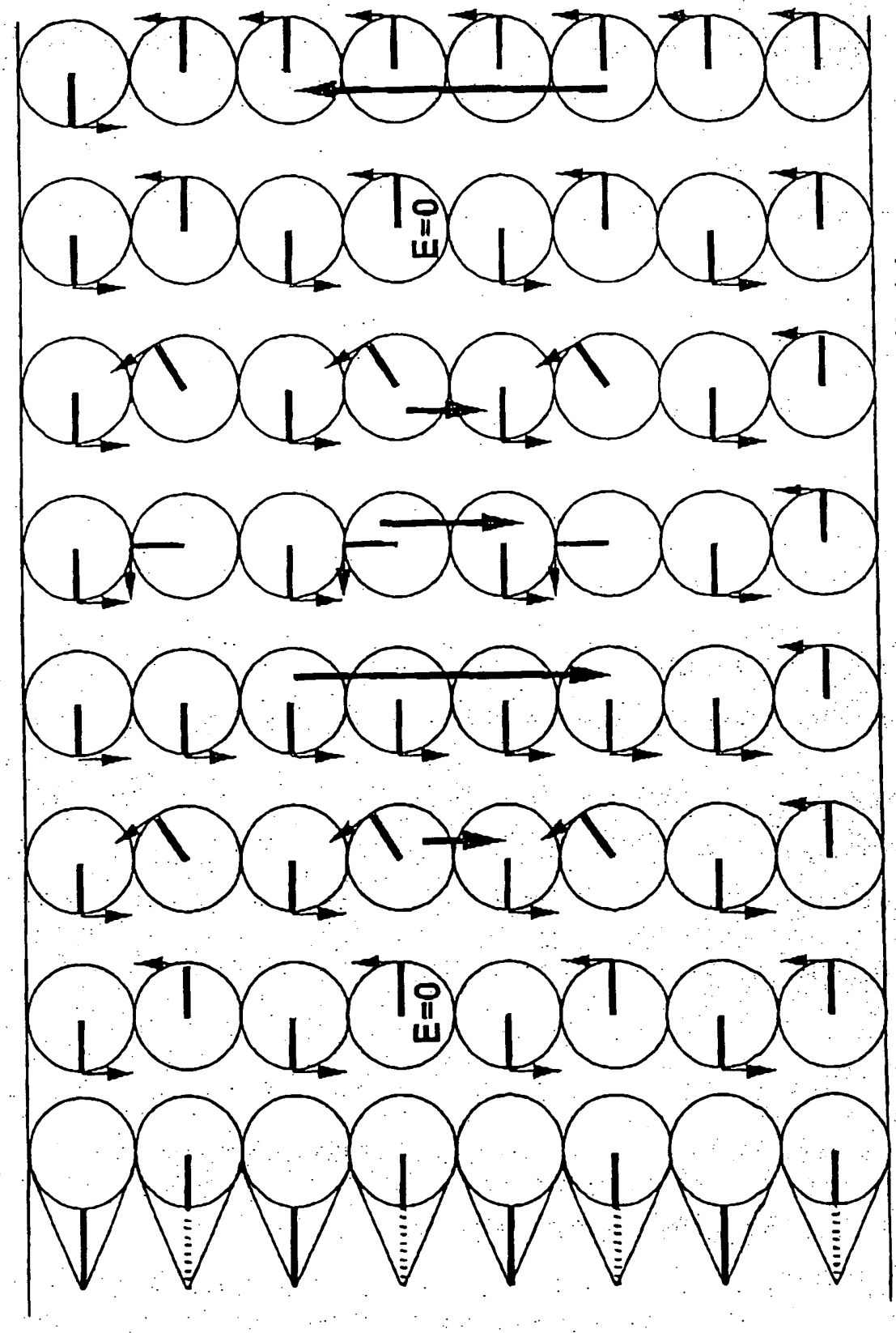
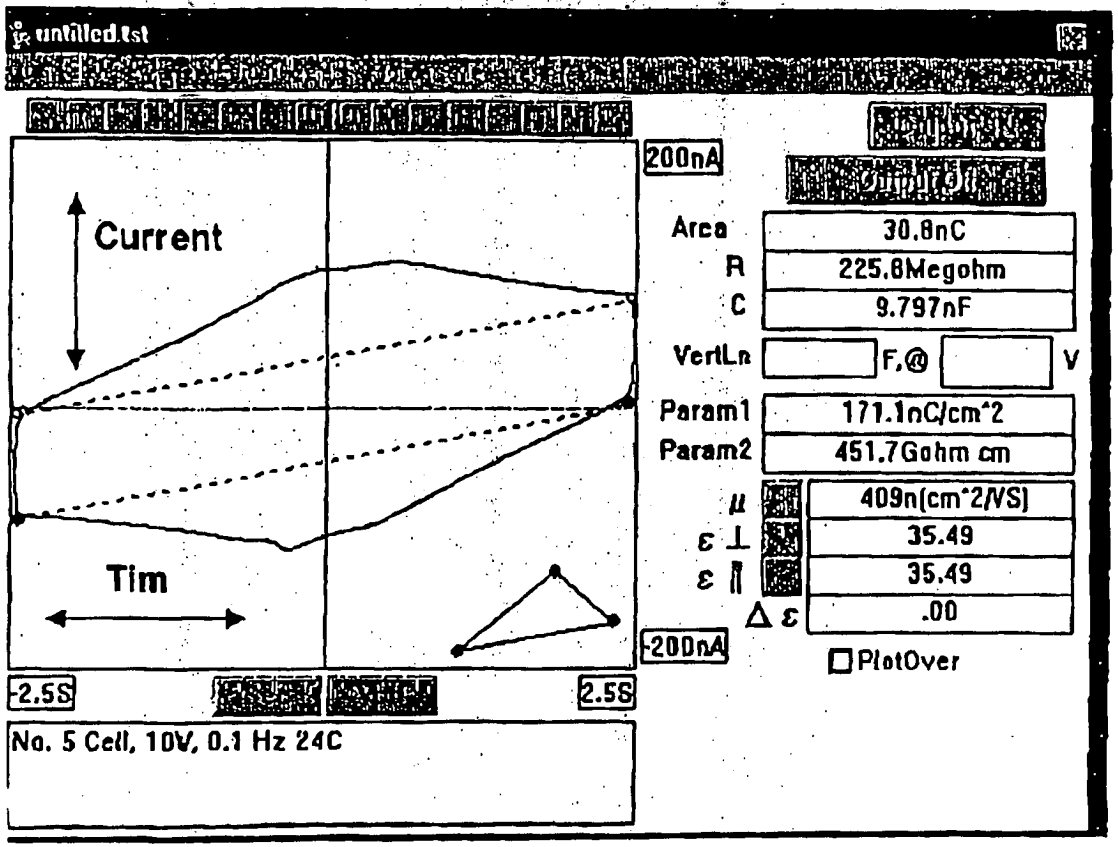


Fig. 11 (c) Model C: Total Polarization Cancellation Model

Polarization Shielded V-shaped FLCD



Measurement condition: 0.1 Hz, 10V Triangular waveform at 24C

Continuous change in current without showing peak represents no existence of spontaneous polarization in the direction parallel to applied electric field which is perpendicular to the substrates

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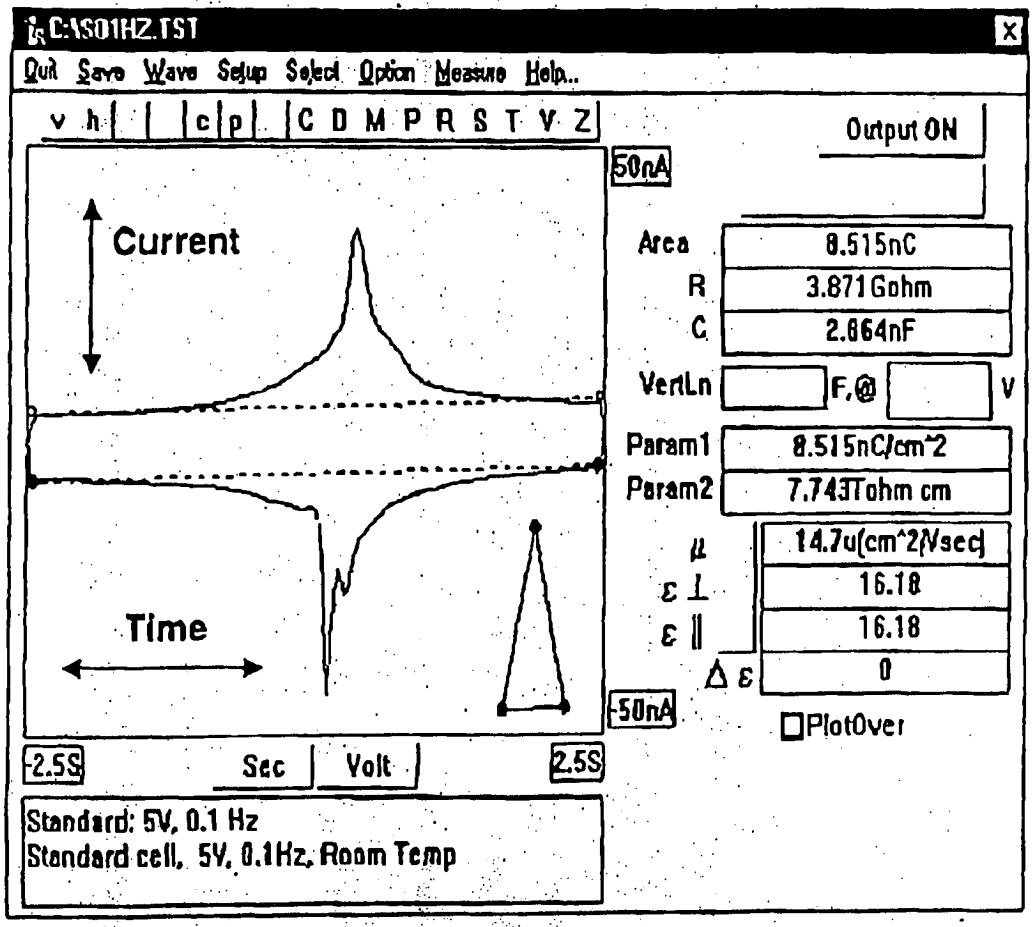
Fig. 12. A direct evidence of no existence of spontaneous polarization parallel to the applied electric field in the invented panel

Conventional SSFLCD



Peak current represents binary polarization switching

Measurement condition: 0.1 Hz, 5V at 24C

Fig. 13. Polarization switching peak current of conventional SSFLCD panel

Fig. 14 (a) c-director profile of Polarization Shielded V-shape FLCD (PS-V-FLCD)

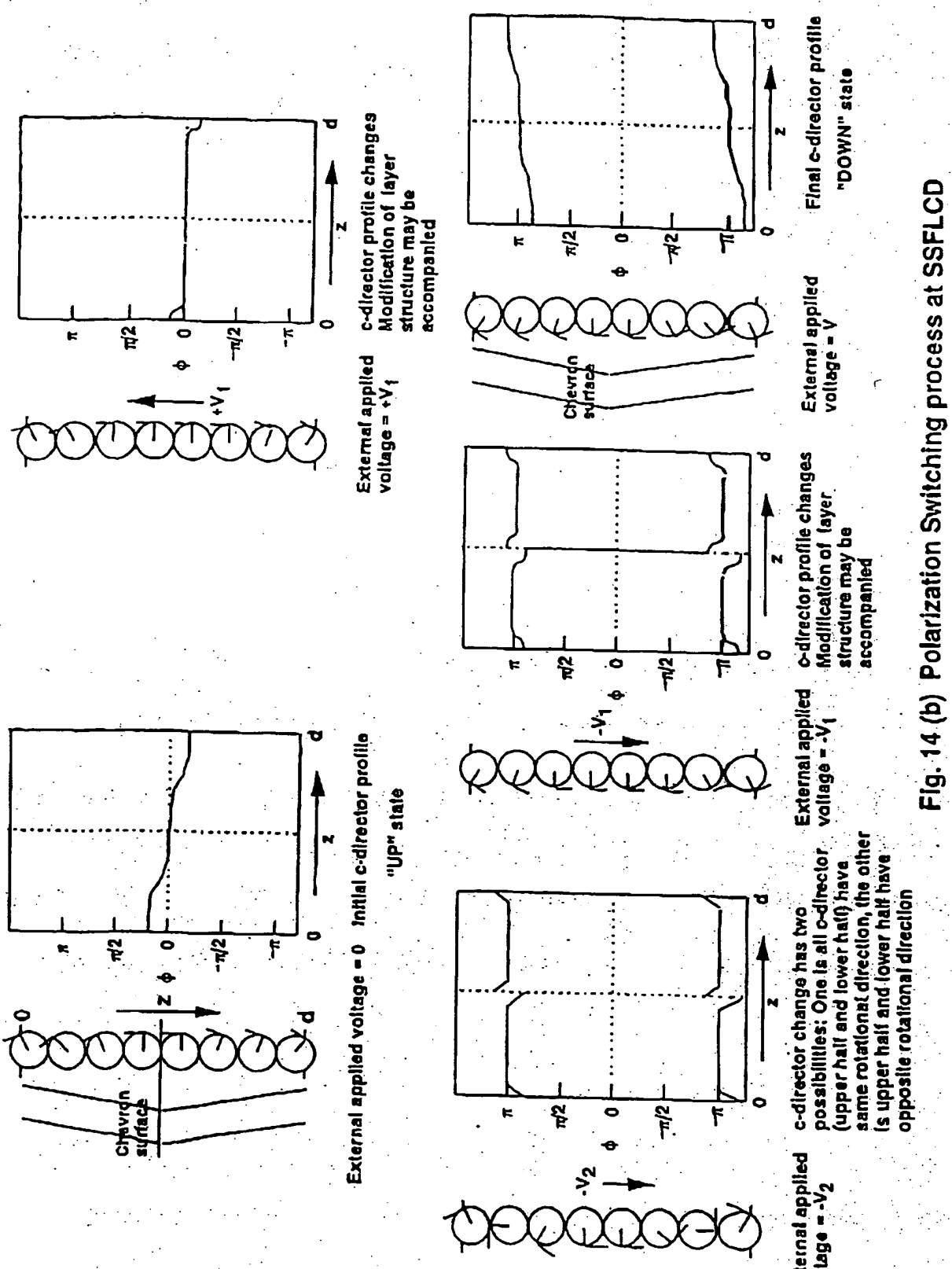


Fig. 14 (b) Polarization Switching process at SSFLCD

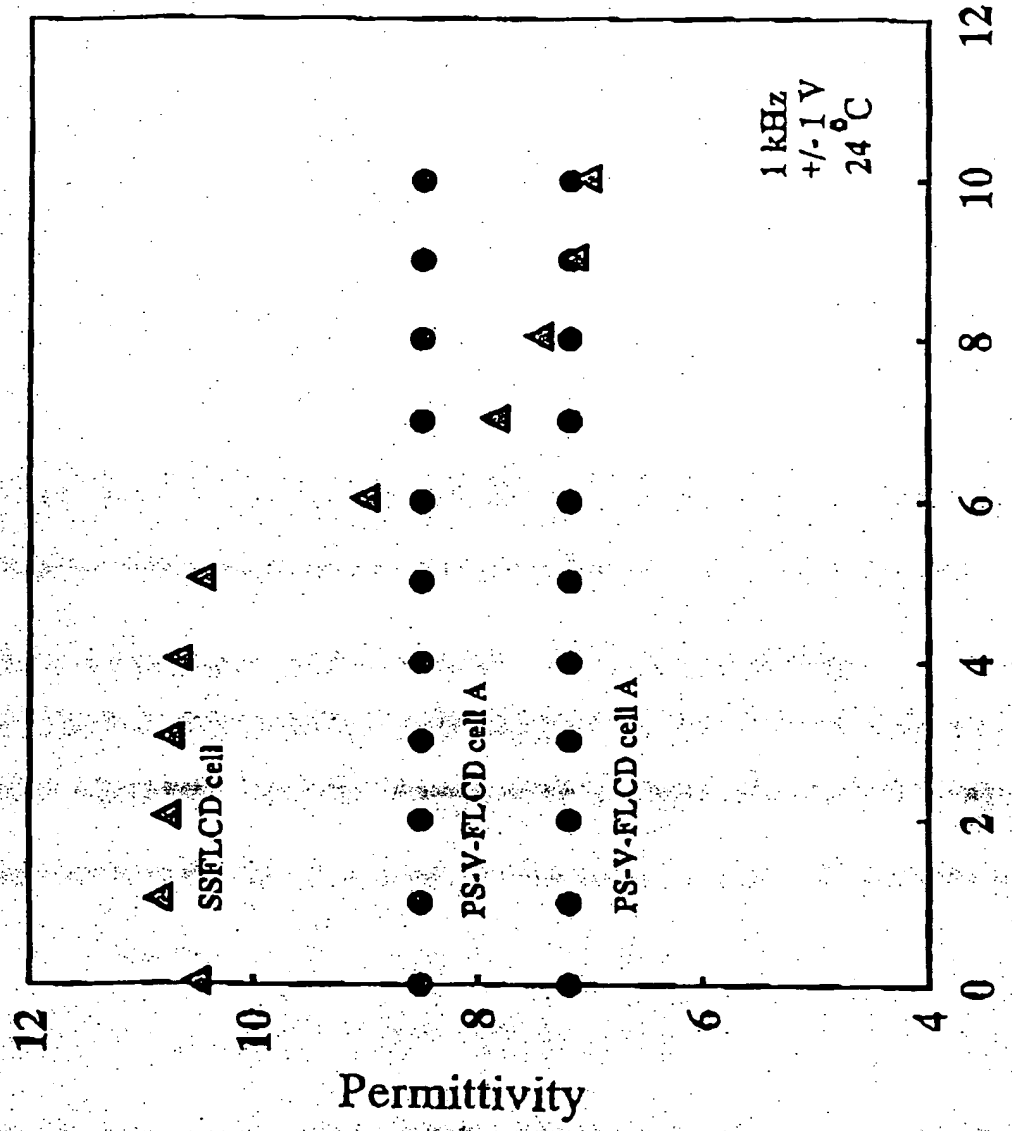


Fig. 15 Dielectric behavior of SSFLCD and PS-V-FLCD

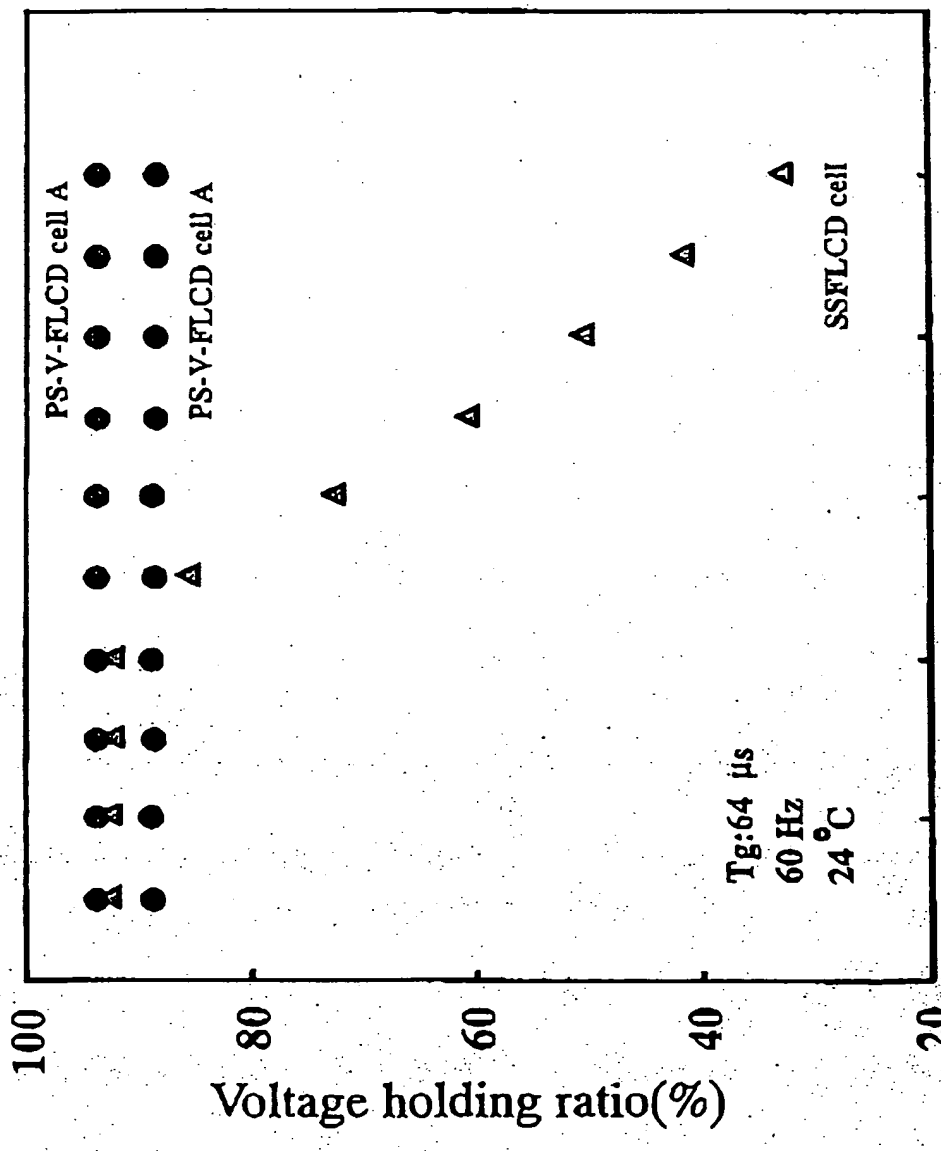


Fig. 16 Difference in VHR behavior between SSFLCD and PS-V-FLCD

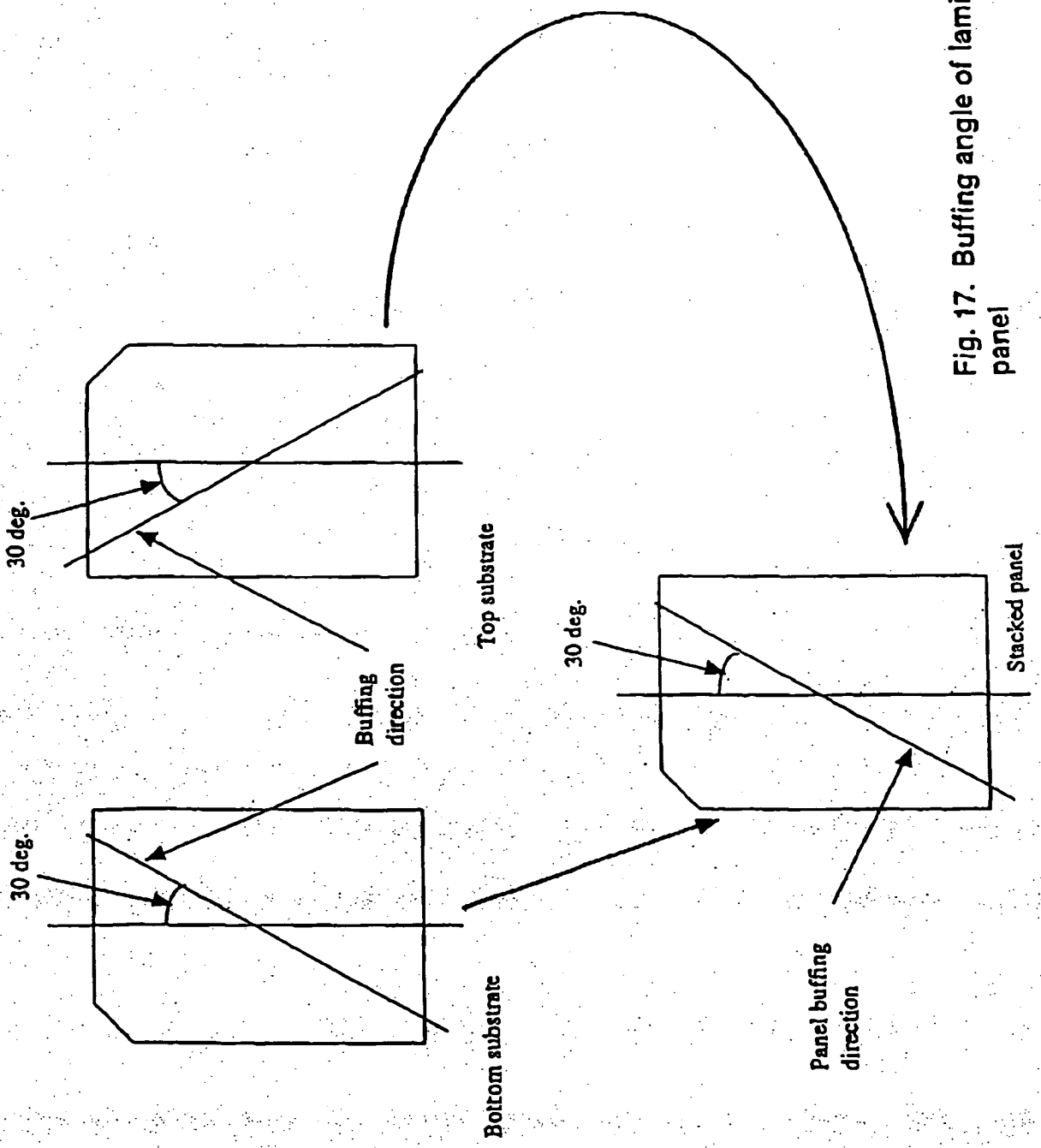
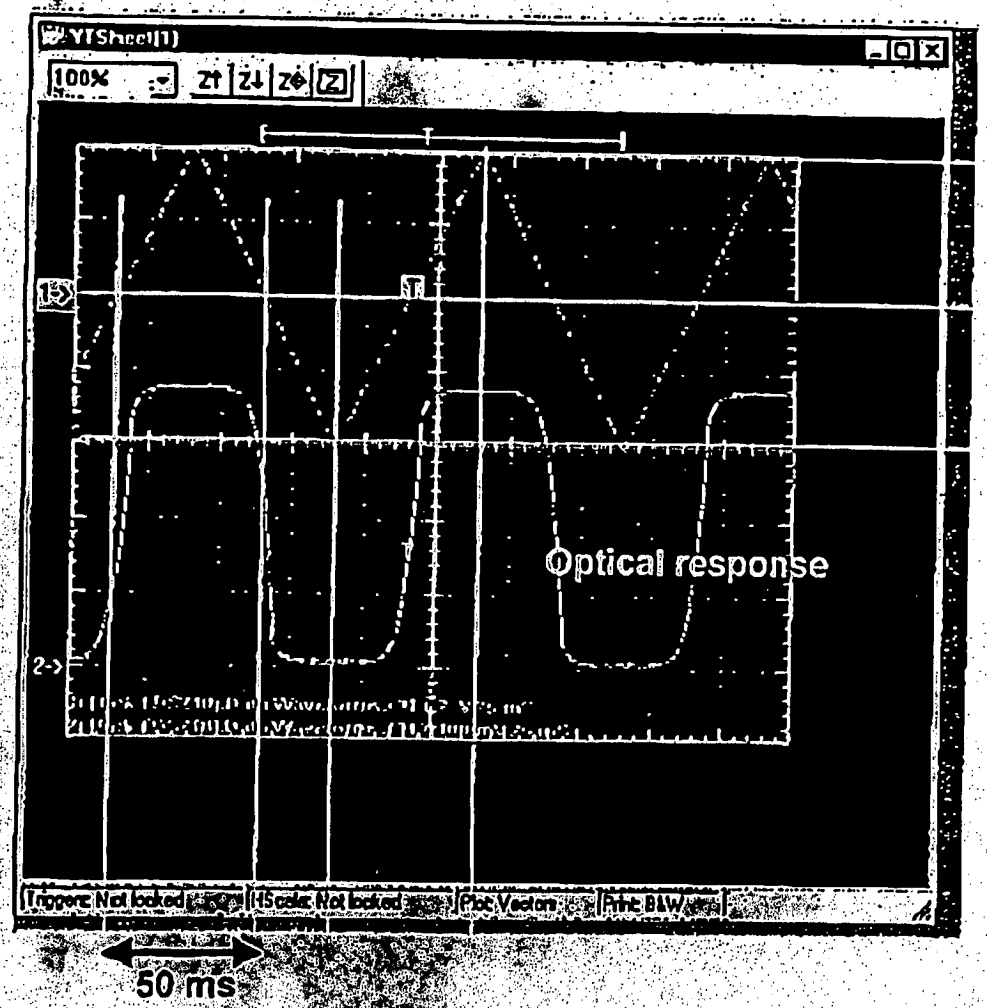


Fig. 17. Buffing angle of laminated panel



Triangular waveform
+/- 4V, 10 Hz

+4V

0V Applied voltage

-4V

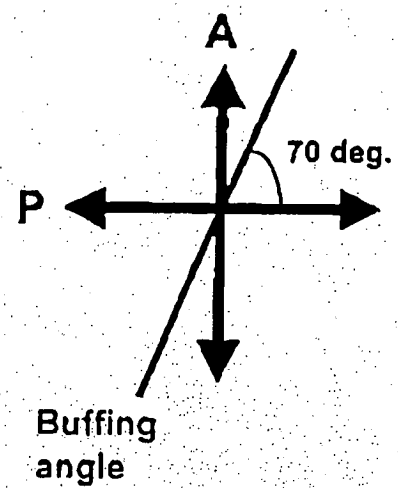


Fig. 18. Electro-optical response of the control example

Fig. 19. Electro-optical response of this invention